

closed by the distention it produces in the pelvis or ureter by appearing as a light or negative area in the injected fluid.

CHARLES M. RICHARDS, M. D. (Garden City Bank Building, San Jose, Calif.)—The importance placed upon preliminary preparation, by the author and others discussing the paper, is not overdrawn. Technically, excellent films can only be obtained when the alimentary tract is well emptied of both solid and gaseous contents.

Patients referred to me from out of town frequently come with little or no preparation, and I often try to save them a prolonged stay or a return trip by doing the work immediately, but more often than not the work has to be repeated because the intestinal tract, chiefly the colon, is full of gas. This condition not infrequently is caused by the conscientious effort of the referring physician to prepare his patient by the administration of saline cathartics, most commonly magnesium sulphate. The best cathartics are the vegetable cathartics, castor oil, and licorice powder.

Then, too, an otherwise good preparation has often been spoiled by unskillfully given enemas, whereby large amounts of air have been pumped into the colon; so that frequently we have purposely omitted the enemas, kept the patient on liquid diet for twenty-four hours, and given the vegetable cathartic, thus producing a quite satisfactory preparation.

The report of the congenital absence of one kidney is very interesting, and only serves to remind us that no useful step of preliminary examination can be omitted with safety when nephrectomy is contemplated.

Sheldon's technic of high milliamperage and short exposures is good for the purpose of eliminating respiratory motion, but naturally eliminates the use of the Bucky diaphragm, which is one of my greatest aids in producing valuable soft tissue films, and high contrasts, which may aid in reducing that percentage of undemonstrable urinary calculi.

DOCTOR SHELDON (closing)—It would seem that the use of six to nine seconds' exposure in the making of ureterograms would give an indistinct hazy outline, because of the peristaltic movement of the ureter when filled. This would be similar to taking that much time for an exposure of the stomach. I have, therefore, in my work preferred the rapid exposure technic. I do not see the advantage of long preparation of the patient, if elimination is started two days before the examination and the intestinal tract is at the same time filled by regular diet. The preparation, as given by Richards, is very good.

**Hot Air Comfort**—Heating methods, heat transmission, comfort, types of furnaces, and ventilation are discussed by Thomas Hubbard, Toledo, Ohio (Journal A. M. A.). He thinks that Americans are becoming progressively more sensitive to temperature and humidity. The popular demand seems to be for higher radiation capacity in the home, in hotels, and in public conveyances. (What a shock it would be to the heating trade if we accepted a 65-degree standard.) Climatic conditions and sudden variations of weather are naturally very trying, and we invite cold shock by hypersensitiveness. Unhygienic heating, combined with foolish estheticism in clothing (e. g., chiffon to furs), results in acute and chronic diseases of the upper and lower respiratory tract. Catarrhal affections, such as chronic sinusitis, even in young children, are far more prevalent than should be tolerated by an enlightened, intelligent people. Medical progress in the study of causes of such diseases is one of the outstanding features of this age, but treatment and cure are handicapped when the unhygienic habit is in itself chronic. The complexion is the color index of good blood and normal skin circulation. It is notorious that in America the natural color index is fading and the cosmetic index is correspondingly high. The skin, like the respiratory mucosa, is actually damaged by hot dry air (and likewise is the hair) and becomes more liable to chronic diseases. Our present high temperature standard so lowers natural resistance to minor and major infections that restoration to normal health is retarded. The fresh air treatment of hospital surgical cases is testimonial to the healing virtue of tonic temperature and natural humidity in convalescence.

## AFFECTIVITY—ITS IMPORTANCE IN PRACTICAL MEDICINE

By CHARLES LEWIS ALLEN, M. D., Los Angeles

*Affectivity varies enormously in different individuals. Its roots descend to the lowest strata, it dates back to the earliest beginnings of mental life.*

*Biologically, it stands in close relationship to instincts and temperament.*

*That differences in affectivity in different individuals depend upon a difference in their make-up, seems pretty certain.*

*The affective state exerts a profound influence upon the attitude, the expression and the speech, as well as upon the cardio-vascular and glandular systems, and the body nutrition.*

*Affectivity varies enormously from person to person, and even in the same person at different periods of his life.*

*Anxiety is more frequently and clearly accompanied by physical symptoms than any other affective state.*

*Morbid irritability, excessive lability of mood and inability to control the instincts and affective reactions is a characteristic of psychoneurotics in general.*

*When phantasy is allowed full play, thinking is not concerned with actualities, but follows the direction indicated by instincts and affects.*

DISCUSSION by Edward A. Franklin, Los Angeles; Aaron J. Rosanoff, Los Angeles; Josephine A. Jackson, Pasadena; Joseph Catton, San Francisco; Clifford W. Mack, Livermore.

IN THE consideration of any disease, as to its nature, its course, and its probable outcome, as well as in its management, the wise physician will study the patient as a whole. By no means the least important factor is his mental make-up, particularly on its emotional side. The English word "emotion" is approximately equivalent to the German "affect," which Ebbinghaus defines as: "Feelings which depend upon the mediation of associatively awakened conceptions, and at once appear in comparatively great intensity, are called affects." According to Bleuler, every psychic process is divisible into an intellectual and an affective side. Under "affectivity" he considers collectively affects, emotions and feelings of pleasure or displeasure, regarding the term "feeling," sometimes applied to this group, as misleading, since it is used to mean both ordinary bodily sensations and complicated cognition processes, whose elements are by no means clear to us. Affectivity varies enormously in different individuals. Its roots descend to the lowest strata, it dates back to the earliest beginnings of mental life. "It contains everything in the way of feeling tone which the mental processes acquire at the same time that they are passing from simple sense impressions and image formation through abstract conceptions and reflexion to decision and to motor impulse" (Kretschmer). Biologically, it stands in close relationship to instincts and temperament.

The instincts of self-preservation and self-perpetuation through securing food, through the avoidance of danger, and through the sexual impulse, seem to be attributes of life itself, and are present in the lowest forms. Though their manifestations in man have become in the highest complex, they still constitute the impelling force of all his actions. With them are intimately bound up the feelings in the broad sense. In primitive man the instincts were intense and uncontrolled, while the fear of dangers both known and unknown was ever present, and

what ideas he had were under strong affective influence. The mental content is greatly influenced by affects. For this influence, H. W. Maier has proposed the name "Katathymia." We know that the thinking and the world conceptions of the primitive are much more katathymic than ours. Now, while the mentality of the civilized nations is immensely removed from that of the primitive races, the ascent has been a gradual one, and many minds still retain much of the primitive habits of thought. This is especially noticeable in children and in the mentally abnormal. While we have no exact knowledge as to the cause of the emotions, which are experienced subjectively only, that they are directly connected with some physical process, and that differences in affectivity in different individuals depend upon a difference in their make-up, seems pretty certain. The importance of temperament has long been recognized, and recent studies of Kretschmer seem to show that body-build has quite a close relationship to character, though on account of the great admixture of different racial strains, the physical types are so complex that caution is necessary in drawing conclusions as to this. The relation between the endocrine glands and body structure is undoubtedly close, but as a matter of fact our knowledge as to the internal secretions is as yet fragmentary. We are by no means sure that they are exclusively products of the glands which we have recognized anatomically, and it seems not improbable that many, if not all the body cells, are capable of producing substances which are necessary for the organism. Hence, while we are justified in the opinion that affectivity is intimately related to physical constitution, we cannot make it an affair of any one set of organs.

While in the James-Lange theory of the emotions physical changes are considered the cause, the emotions the effect, the experiments of Pawlow, Cannon and others show that feelings such as pain, hunger, fear and rage, are followed by bodily changes, especially by altered glandular functioning. In their view, this is the result, not the cause of the strongly affective tone which characterizes such feelings. It has been pretty well established that in animals the mechanism regulating the physical expression of the emotions is situated in the archaic portions of the brain in the neighborhood of or below the thalamus, and Cannon locates the center regulating the adrenal secretion close to this. He believes that the impulses sent out from this center pass through the sympathetic nervous system. Emotional excitement in man is attended by many of the signs produced in dogs and cats by stimulating the adrenal center. Under excitement the heart beats rapidly, the blood pressure rises, the pupils dilate, and the processes of digestion cease. Cannon regards it as probable that "the adrenal glands, the liver, and the thyroid are as much involved in the complex of emotional response in the human as they are in the subhuman groups." As we lack proper tests for adrenal and thyroid secretions in the natural state of the body, we cannot get direct evidence of their presence or absence, hence of increased or decreased glandular activity in man. As indirect evidence, hyperglycemia or glycosuria has been noted after great emotional stress, as in football players after a hard

game, in students after a trying examination, in aviators and in citizens after a bombardment, while hyperglycemia has been reported in mental disorder with great anxiety. The influence of strong emotions in hyperthyroidism is pretty well established. By adrenalin injections many of the visceral changes of profound emotion can be produced. Persons subjected to these complained of nervousness, trembling, oppression in the chest, and "feeling the heart beats everywhere," while some athletic students reported themselves as feeling just as they did before starting a race—"all worked up and on edge." One subject said, "I feel as if I were experiencing a deep emotion, but I am not at all." These statements do not point to specific effect of the visceral changes on conscious emotional experience. Since they are similar in widely different feeling states, Cannon holds that they cannot be considered as the source of the feelings experienced. To account for the affective outburst and the features which distinguish one emotion from another, we can for the present form hypotheses only. Cannon suggests that their difference in character may depend upon the "nervous pattern ingrained in the archaic part of the nervous system," and that "when nerve influences flash through these ready but unworn pathways," the result is manifested in the affects, variable and rich in feeling tone, which we know in practice. From the foregoing it is clear that the affective state exerts a profound influence upon the attitude, the expression and the speech, as well as upon the cardio-vascular and glandular systems, and the body nutrition. Conversely, affectivity is strongly influenced by physical causes, notably by disease, witness the anxiety of heart disease, the depression and irritability in digestive troubles, the euphoria of phthisis, etc. Affectivity influences our thinking, in that the force of ideas corresponding to an affect is increased, that of those unrelated or opposed is diminished, so that the tendency is to occupy oneself with those conceptions imposing themselves as important, to the disadvantage of contra-conceptions. The depressed subject is only able to see the disadvantages, the exalted only the advantages of a certain course.

A group of conceptions bound together through having been built up around a strong affect and exerting a lasting influence upon the psyche is called a complex. The assumption that such complexes existing outside the sphere of consciousness are constantly influencing both thought and action, is the central idea in the Freudian psychology, which, stripped of many of its original dogmatic assertions, is taking its place as a useful working hypothesis for the elucidation of some of the problems of psychopathology.

Affectivity varies enormously from person to person, and even in the same person at different periods of his life. It is a most important factor in the character of the individual, determining the quality and speed of the reactions, the strength and durability of the emotions. Jealousy, envy, and pride are at once personal characteristics and affects, while laziness or energy, steadiness and industry or indifference and negligence are based upon the affective make-up. Since the affective potentiality varies so

greatly, affectivity readily oversteps the bounds of normality.

Low affectivity, while perhaps safer, does not make for high accomplishment and may be in itself abnormal. While psychopaths are usually thymopaths, so are great artists, musicians and writers, of whose utility to the world there is no question. Religious conceptions are determined almost exclusively by affective influences.

It is in psychopathology especially that affectivity plays a preponderant role, but it must be considered in all branches of medicine.

Says Kretschmer, "The psychology of the neuroses is the psychology of the human heart in general. He who knows neuroses, knows mankind." The "affect dynamic" point of view must take the chief place in a strictly medical psychology, for in it we have the best working hypothesis for a study of the neuroses, the psychopathic reaction forms, hysteria and the milder schizophrenic and paranoid borderline conditions which are continually confronting all physicians.

The power of suggestion needs only to be recalled. Now, ideas without accompanying affect have little or no suggestive power. "The greater the emotional value of an idea, the more contagious it is." The suggestive influence which one person exerts upon another depends mainly upon a reciprocal affective state. In mass suggestion the affective influences are multiplied many fold, and few can resist the contagion of great religious and political movements, once they acquire a certain impetus.

It is to be remembered that not only thought, but also other brain-controlled functions, the heart, the glands, and unstriated muscle, are under the influence of affects, so are subject to suggestion.

The so-called auto-suggestion depends entirely upon the action of the affectivity upon the logic and the body functions of the individual.

In hypnosis the associations are so limited that only things suggested by the operator are perceived or thought of; hence, those associations desired are more than usually under the control of the psyche. "The hypnotized person comprehends what is expected of him better than normally, and can utilize sense impressions ordinarily too weak for him," so that objects are so vividly conceived as to be hallucinated, while actual perceptions are kept out of consciousness, "negative hallucinations."

Now, we know that in the psychoneuroses suggestibility is enormously increased, hence the peculiar susceptibility to hypnotism. In the Freudian system, the affect-accentuated complex through "conversion," "displacement," or "suppression," is considered the mainspring of the symptoms, so varied and bizarre, of hysteria. Particularly pathogenic are ambivalent complexes—that is, those characterized by an inner conflict which the patient cannot solve, hence suppresses.

While disturbances of the affects may depend upon changes in the brain or in the chemistry of the organism, a certain constitution, usually congenital, seems to be a prerequisite in most cases. The hysteric and the paranoiac are born different from healthy people.

In all mental diseases, the symptoms—at least at some stage—are largely determined by the affective

condition; most marked is this in the manic-depressive group, the affective psychoses par excellence.

Depression is a normal reaction to misfortune; it is only when it is unmotivated, excessive or unduly prolonged that it becomes pathological. In the melancholic all but depressive ideas are suppressed, thinking is painful, and retardation may be so extreme as to give the picture of stupor. A common accompaniment of depression is anxiety, which, however, may occur in other conditions and from various causes. In some cases it is clearly connected with deficient oxygenation of the tissues, as in diseases of the heart, the blood or the respiratory organs. Freud has emphasized its connection with the sexual impulse which, when excited and unsatisfied seems to be "transformed" into anxiety. We know that normal sexuality has a certain anxiety component, and that an orgasm may occur in certain anxious situations, while anxiety attacks may be translated physically as hunger, profuse sweating, asthmatic seizures, diarrhea, vertigo, etc. There are physical causes at present unknown to us which produce depression, the patient being aware of no reason for it. In his search for a cause, he may attach to it some conception, which is clearly an afterthought, but when the falsity of this is demonstrated to him he is apt to make some new connection as long as the anxiety state continues.

Anxiety is more frequently and clearly accompanied by physical symptoms than any other affective state, often by precordial distress, pain running down the left arm, palpitation, pulsation in the abdomen, a "streaming toward the head," pressure, etc., "precordial anxiety." Anxiety tends to raise the blood pressure. An increased tonus of the pharyngeal muscles causes a distressing feeling of constriction which may lead to refusal of food. Depression occurs in various psychoses. With advancing age and the onset of circulatory disturbances, the tendency to anxious excitement increases.

Anxiety is an important accompaniment of phobias and imperative conceptions and acts.

Exaltation may vary from a natural and motivated reaction through simple euphoria, in which the feeling of happiness and well-being is not justified under the existing circumstances and is unduly prolonged to the most exaggerated self-feeling with unbounded increase of the aspirations and pretensions. When to this there is added flight of ideas and motor impulsions, we have a condition of mania. Here lability of mood is the rule, the affective condition varying with the theme, from exaltation to depression, but speedily returning to the basal euphoria. The manic picture may be an episode in many psychoses, but in its typical development is a part of the manic-depressive psychosis.

Since the symptoms just discussed may, in their milder forms, occur with a minimum of mental disturbance they naturally come under the observation of the general practitioner, who should be alive to the possible affective origin of certain puzzling visceral symptoms.

Morbid irritability, excessive lability of mood and inability to control the instincts and affective reactions is a characteristic of psychoneurotics in general, of many of the high-grade defectives, and of those borderline cases which have been brought to-

gether under the general name of "Constitutional Psychopathic Inferiority." These last, the "half-insane," constitute one of the most serious problems with which we have to deal. Always dissatisfied, mostly complaining, and often in trouble, they furnish a large contingent of the criminals and "ne'er-do-wells" of the community. They are among the clients of every general physician, often never come under the specialist and can rarely be committed as insane, so remain for years a care to their friends, a nuisance to the community, the drones in the hive of industry, if nothing worse. In the foreground of their characteristics stand affective abnormalities. Even if their intelligence is average or high, it has little regulative influence upon their conduct.

Strong affects may lead to disturbances of consciousness in psychopathic individuals; for example, to the sudden explosions of blind rage, often followed by amnesia, seen in prisoners and in the feeble-minded. In other instances the affect instead of exciting, inhibits, leading to a form of stupor, seen especially in children and in young people when confronted with an emotionally charged situation, such as an examination or other task toward which there is a strong aversion or a sense of impending failure. "Affect stupor." Such situations, inner conflicts and improper attitudes, arising upon the basis of injured self-feeling, are at the bottom of a number of peculiar and anti-social acts of children, as has been abundantly proved by the newer investigations of child behavior.

Under the head of "Psychopathic Reaction Forms" or "Situation Psychoses," Bleuler has brought together such diverse conditions as paranoia, the persecutory delusions of the deaf, querulant insanity, induced insanity, reactive disturbances in prisoners, "primitive reactions," reactive depressions and exaltations, the impulsive insanity of Kraepelin, reactive character alterations, and the whole group of the psychoneuroses. "In any disturbance within the psyche, affects act differently from before and can produce morbid syndromes." "Congenital anomalies, injuries and diseases of the brain, disturbances of nutrition, intoxications and infections, and finally the prolonged action of affects, form, in varied array and admixture, the basis upon which these reactions occur" (Bleuler). It is true that similar reactions may occur in such diseases as schizophrenia and organic psychoses, and are then attached to the proper symptomatology of these diseases. Most of these syndromes are due to the exaggerated action of affects, affectivity being unusually responsive and readily brought to bear upon the associations, while reflective power is defective.

When phantasy is allowed full play, thinking is not concerned with actualities, but follows the direction indicated by instincts and affects. Characteristic of this, the "autistic" or "dereistic" thinking of Bleuler is, that in it conflict with the truth is disregarded, the "logic of the emotions" being followed. While this method of thinking is characteristic of children and primitive people, it is never entirely absent and answers to needs both affective and intellectual, particularly in fields in which we have no exact information (as in religious and philosophical speculations). It is in fact within

limits a prerequisite of intelligence, for out of free imaginings new ways are often developed.

In no form of mental disease does autistic thinking play a greater role than in schizophrenia (dementia precox) among the basal symptoms, of which disturbances of associations are of special importance. In this weakness of association, affects exert a preponderant influence upon the course of thought. In the severer forms of dementia precox, "affective dementia" is the most striking symptom. While it is not probable that affectivity is ever entirely extinguished and even very active manifestations of it occur at times, especially in the earlier stages, these patients impress us in general by the indifference of their demeanor, one of the surest signs of the disease being defect in modulating the emotions, an "affective rigidity" (Bleuler). Such patients manifest no reaction in response to a usually affect-exciting occurrence, or react with a wrong manifestation, laugh at bad news, weep at good news, etc., "parathymia." Even a usually dull patient may, however, give an adequate reaction upon the exposure of a painful complex. What affective reactions occur are usually unnatural, exaggerated or theatrical, do not impress us, and these patients seldom respond to *our* emotions, hence the difficulty in feeling ourselves "en rapport" with schizophrenics.

In epilepsy affective reactions are pathologically strong. An existing affect lasts unusually long, and is with difficulty displaced by new impressions.

It is clear that affectivity contains many elements, that it varies immensely in different individuals, and must be considered in estimating both mental and physical symptoms. We have no means of measuring it.

However, any physician who will cultivate the habit of studying the mental characteristics of his patients while judiciously questioning them can learn to form a good practical estimate as to their relative affectivity.

The control of the emotions, through the banishment as far as possible of disturbing or exciting influences (by quiet and isolation), the conveyance of favorable suggestions, especially through a calm and hopeful attitude on the part of physician, nurse, and family, supplemented when necessary by the judicious use of drugs and other measures for the control of pain, excitement and insomnia, cannot but have a favorable effect upon our results, both medical and surgical.

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#### DISCUSSION

EDWARD A. FRANKLIN, M. D. (411 Bank of Italy Building, Los Angeles)—The importance of affectivity cannot be overlooked because of its practical bearing on the treatment of difficult patients. Peculiar affect states put obstacles in our path.

Affectivity is closely entwined with character and emotion, and the James-Lange theory of its physical basis is most to be depended upon.

While heredity and environment play a most important role in influencing affectivity of a given normal individual, we must not overlook such important objective factors as diurnal variations, changes of climate, changes in barometric pressure, etc., and in the pathological individual changes produced by disease.

Affectivity is undoubtedly influenced by a great many factors mentioned by Dr. Allen, but there is nevertheless

a certain constancy of affect states in individual instances, as illustrated by the faculty of memory.

Disordered relationship between normal nutritional elements of the blood system and its proper utilization by nerve tissues gives rise to dysfunction on the part of the nerve tissues, and may readily cause affect changes.

Affectivity may also be influenced to a great degree mechanically by interference with the circulation of the cerebrum and chemically by pathological nutriment of the central nervous system induced by metabolic, toxicemic, infective, parasitic, autotoxic, endocrinic, blood dyscrastic and other states which seriously deprive the neuron of proper nourishment.

The affective state is purely subjective and, while different stimuli show differences in the affective state, still these differences are peculiar to the individual, although they may vary slightly under normal and greatly under pathological conditions.

The affective state can be submerged by suggestion and hypnosis, and these measures are of undoubted importance in treating abnormal affective states. Strong affects are particularly noted in mania, delirium, fevers, and all congestive states of the viscera due to cardiac diseases or lowered sympathetic tone, while weak affects are more marked in dementia, stupor, melancholia, anemic states or anything which impoverishes the nutriment of the cerebrospinal system.

Interchangeable affective states from strong to weak or vice versa is a common occurrence in many diseases of the central nervous system.

AARON J. ROSANOFF, M. D. (Westlake Professional Building, Los Angeles)—I should like to emphasize what Dr. Allen has already touched upon, namely, the effect that strong emotions, especially depression and anxiety, have upon the physical condition of patients. I am thinking particularly of involuntional melancholia and allied conditions. In such cases, clinical experience fully bears out the experimental researches upon animals made by Cannon. Every psychiatrist is familiar with the almost invariable loss of appetite and progressive loss of weight which are to be attributed, I presume, to diminution and alterations of the secretions of the digestive organs and to diminution of gastric and intestinal motility. Unless the physician anticipates the threatened impairment of nutrition in the early stages of involuntional melancholia, and secures for the patient rest, isolation, and adequate feeding by means of milk or other easily digested food given in small quantities at frequent intervals, but furnishing in the aggregate a sufficient total caloric value, the duration of that disease will be needlessly prolonged and its mortality will continue to be high.

It seems probable that hyper-adrenalism has something to do with abnormally intense emotional manifestations, such as are seen in manic-depressive psychoses. At any rate, I have been often struck with the abnormally large size of adrenals in many of the cases which I have examined at autopsy, and occasionally I have seen hyper-nephromata either in the adrenals or in the kidneys. It may be that in cases of this kind some of the adrenal tissue should be excised, just as we excise thyroid tissue in cases of hyperthyroidism. So far as I know, this has never been attempted, and I doubt if our knowledge of the relationship between adrenal hypertrophy and excessive emotional manifestations is sufficient today to justify such surgical interference. I mention this solely for the purpose of interesting those who have opportunities of performing autopsies upon cases of manic-depressive psychoses and involuntional melancholia, so that eventually we may have such accumulation of evidence as would justify attempting radical procedure.

JOSEPHINE A. JACKSON, M. D. (1955 Morton Avenue, Pasadena, Calif.)—The topic timely, the subject matter exhaustively handled, the application practical—this is what we can always count on from Dr. Allen. "By no means the least important factor in the study of the patient is his mental makeup, particularly on its emotional side." Affectivity varies enormously in different individuals, and upon its degree and kind depend the power of adaptation of the individual to life.

Primitive man listened to his solar plexus, his feelings. Modern man is supposed to be governed by ideas, the cold product of the brain cortex. But the basal ganglia,

whose peripheral extension is the solar plexus, do by their proximity to the cerebrum give to every idea some warmth of feeling, some specific feeling tone.

His affectivity varies for the individual at different periods of his life, and in response to varying states of physical health. The chemistry of the body at the moment has its effect upon affectivity. No man commits murder on a full stomach; nor is a man held accountable for what he does in hot blood. Oliver Wendell Holmes asks pertinently whether the betting would be even if the prizefighter had indulged in a purgative on the eve of the fight.

"Is life worth living?" depends not on the liver alone, but on all the glands of internal secretion, for as a man feels so do his impulses flow. "Affectivity influences our thinking." An affectful idea holds the attention. The manic-depressive swings from pole to pole in his thinking as the chemistry of his body gives him the feeling of exaltation and again gives him the awful torture of depression.

A complex, what is it? "A group of conceptions bound together through having been built up around a strong affect and exerting a lasting influence on his psyche." "Guard well thy thoughts," for inevitably they build themselves into complexes.

The "affect-dynamic"—the point of departure for all studies in medical psychology. "The affect-accentuated complex is the mainspring of the symptoms—in the psycho-neuroses."

JOSEPH CATTON, M. D. (209 Post Street, San Francisco)—Dr. Allen's paper appeals to me because it demands consideration of the qualitative as well as the quantitative side of mental makeup. Contrast the quite due importance he gives the affective states with the often too great importance assigned to quantitative-intelligence-scaling. A mental rating has definite value, but tells but a small part of the story. One may get along with a mental defective rating if his affective side gives proper emotional attitude towards his surroundings and expresses itself in good moral makeup and personal appearance. Mental tests leave out affectivity entirely. Allen has shown that the emotional and the quality side cannot be neglected. He finds the influence of affects on mental content, but indicates that such influence is more marked lower in the scale—in primitives, children, and mentally abnormal. This last statement is only correct on the surface. I would stress the point that the *affective states are none the less active in the average civilized adult today* than in the savage, the child, or the insane. Intelligence is an overlay which has hidden, modified, guided, inhibited, and controlled affectivity in a measure; and in turn, intellectual activity has been modified, guided, controlled and made to serve affectivity. Increasing intelligence will not destroy affectivity; hence Allen's paper.

CLIFFORD W. MACK, M. D. (Livermore, Calif.)—*The great problem in medicine has always been and ever will be the conversion into useful agents of those theories that are proven experimentally.* Dr. Allen has given us a very clear resumé of the current thought and theory regarding affectivity, pointing out what can be given application in medicine. Psychopathology is like a laboratory searching for the truth about mental mechanisms. We as physicians wish to take the product from the laboratory and use it in our work-a-day contact with patients. How best to do that is the question we need answered. I think Allen's paper will help us along the road to more efficient application.

The study of the "human organism as a whole" is a most important principle to guide us in our work. In the survey of a sick person with either a physical or a mental illness, the various physiological functions are studied and their efficiency determined with such scientific exactness as we now possess. We are interested in the condition of the circulation, the renal function, the memory, and intelligence; so, in like manner, we should study the affectivity of our patient and the sum total of its influence upon the other physiological systems. The fact that thought itself is influenced and possibly conditioned by affectivity, that moods arise from associated memories in subconsciousness, that a complex may be projected into consciousness as a subjective symptom, all demand alert-

ness on the part of the physician in dealing with the complexity of disease.

Our knowledge of affectivity is of practical importance in diagnosis, treatment and prophylaxis. In gathering data for diagnosis we find that subjective symptoms may be the product of an emotional defect or their intensity may be increased by a particular state of feeling. Whether we believe in a physical origin of the emotions in the basal ganglia or the endocrine glands, we can all agree that the character of symptoms is influenced by the prevailing mood. A peripheral stimulus may only be sufficient to register discomfort, but in an emotional depression it becomes a pain, because the receptivity of the sensorium is increased. The neglect of this fact may lead us astray in diagnosis. In treatment our course of action is influenced in the same way. Despite the theories of emotion, we have all observed clinically the effect of the emotional reactions on the vital organs of the body. Dr. Allen mentions the bearing this has on the action of the brain, heart, unstriated muscles, secretory glands, etc. This is so positively demonstrated in the pathologically depressed patient that we must accept it as a fact. In every disease, then, we should consider the factor of emotions, retarding or accelerating reparative processes, nutrition, immunity production, and glandular function. Dr. Bush of the Arroyo Sanitarium tells me that the prognosis of pulmonary tuberculosis is greatly influenced by the patient's mood. Then looking at the problem from another angle, if the depression is primary, the secondary dysfunction of vital organs demands treatment. Psychic treatment alone is not sufficient, but should be supplemented by supportive therapeutic measures to prevent metabolic disorders, such as diet, drugs, and physiotherapy.

The prophylaxis of disease in general is intimately bound up with the affective mechanism of the mind. There is probably in the incipency of every organic disorder a period of functional weakness in the particular tissue that may be influenced by the emotional balance. This phase may not come under medical observation before symptoms are registered. It is noticeable in the neuroses and psychoses, which are purely functional in type. The somatic symptoms of the depressions, which quickly disappear with the oncoming elation, as well as in the opposite course of events, illustrate this point. The emotional overstrains acting over long periods of time are psychic toxins that ultimately may precipitate a neurosis or a disturbance of metabolism. The masterly control of the affective side of a patient's life then becomes a potent agent in the prevention of disease.

As our ability to apply these truths increases, our service to our patients will be augmented.

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Cyrus C. Sturgis and James A. Greene, Boston (Archives of Internal Medicine, October 15), discussing the "Nutritional Changes in Exophthalmic Goiter: The Effect of Lugol's Solution," find that:

"A comparison of the body weight of these sixty-five patients with the standard weight tables shows that 80.2 per cent. averaged 18.2 per cent. below normal when they first appeared at the hospital. A study of the alteration in body weight following operation in thirty-six patients who had not been treated with Lugol's solution and therefore were operated on with an elevated metabolism, averaging +39, showed that all except one, in whom the weight was unchanged, lost an average of 5.2 per cent. of their preoperative body weight in an average of eleven days after the operation. The factors responsible for this loss of weight might be several, but it was concluded that the most important was the combination of the inability of the patient to consume normal quantities of food and the elevated metabolism, which may remain high for a period of ten days or longer following thyroidectomy. A second group of twenty-eight patients, who had been treated with Lugol's solution and in whom the metabolism was reduced to an average of +21 before the operation, was studied. In these patients, 18 per cent. had actually gained weight by the tenth post-operative day, and the loss of weight for the entire group averaged only 2 per cent. This loss is even less than the average decrease in body weight following operation in a group of twenty-five patients with colloid goiters and non-toxic adenomas.

## THE CORRECTION OF FLEXION, ADDUCTION, AND INTERNAL ROTATION DEFORMITIES OF THE LOWER EXTREMITIES, RESULTING FROM CEREBRAL PALSY OF CHILDHOOD.

By RICHARD H. PYLES, M. D., Los Angeles

*The treatment of adduction, flexion, and internal rotation deformities of the lower extremities, and without which nothing can be accomplished, is physiological rest.*

*The most efficient means of establishing physiological rest, the first and most important factor in the treatment of cerebral palsy, is the plaster of paris cast, which should be applied in all types of deformity as soon as the patient is seen. A decided relaxation is noticeable within twenty-four hours, and a general improvement will continue with the aid of proper systemic care up to the point actually produced by the brain lesion.*

*No operation yet devised has ever effected any reciprocal improvement in the affected muscles that have lost their cerebral control. Realizing that we have not a motor paralysis, but a destruction of the mechanism which governs voluntary expression, surgical interference is never indicated unless we have actual structural deformity to correct that cannot be overcome by manipulation under anesthesia.*

DISCUSSION by George Rothganger, Oakland; Harry J. Schott, Los Angeles; Frank A. Lowe, San Francisco.

CEREBRAL palsy of childhood, if our present knowledge of the primary pathology and nature's processes of repair are correct, is an incurable condition in which the brain has been retarded in its normal development by some injury which has either partially or totally destroyed its anatomical and physiological integrity. These destructive processes, striking as they have the main switchboard from which all thought and action is distributed, puts the entire system in a state of chaos. The diagnosis is easy because every patient presents many of the classic symptoms that have been described for the disease.

With the familiar picture in mind, I shall not dwell further on an academic discussion of why and how this all occurred, but will direct my remarks toward the best method of administering justice to the patients by assisting them to make the most out of what they have left. This can only be done in three ways: by (a) localizing the focus of disease or lesion in the brain and attempting, through surgical treatment, to open up some of the natural channels of repair; by (b) physiological rest and exercise, administered according to the vital requirements of the patient, and by (c) making an effort to prevent or correct the deformity which has occurred as a result of the primary lesion.

The first has not met with very much success, except in a few isolated cases that have been treated early and where the continuity of the nerve fiber and its adjoining cell have been embarrassed by pressure from without rather than by destruction of some part of the brain. Where extravasations of the blood have penetrated between the covering membranes of the brain, and in some cases where the injury to the motor, sensory and spinal centers in the cortex are not extensive, skillful surgical treatment soon after the injury has been responsible, rarely, for gratifying results. I believe that most neurological surgeons will agree with the statement that our natural biological laboratories of repair cannot be helped in their work very often where the lesion has been one of long duration from the